We claim,

1. A composition comprised of at least two biopolymers conjugated to an insoluble support by at least one reversible linkage.

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2. A composition according to claim 1, wherein the at least two biopolymers are comprised of nucleic acids.

3. A composition according to claim 1, wherein the at least two biopolymers are comprised of polypeptides.

4. A composition according to claim 1, wherein the at least two biopolymers are comprised of a nucleic acid and a protein.

5. A composition according to claim 1, wherein the at least one reversible linkage is formed through a trityl derivative, a chelate complex, a hydrophobic interaction or a photocleavable functionality.

6. A composition according to claim 1, wherein the insoluble support is selected from the group consisting of: a flat surface, a comb and a bead.

7. A composition according to claim 6, wherein the insoluble support is selected from the group consisting of: a silicon wafer, glass plate, metal, plastic, film and composites thereof with pits or wells.

8. A composition according to ~~claim~~ 7, wherein the biopolymer is conjugated to the insoluble support in an array format.

9. A composition according to claim 7, wherein the bead is comprised of an inorganic material selected from the group consisting of: silica, Controlled Pore Glass (CPG), plastic, metal, cellulose, Sepharose and Sephadex.

10. A composition according to claim 6, wherein the insoluble support is comprised of a magnetic or electromagnetic material.

11. A composition according to claim 2, wherein the nucleic acid is selected from the group consisting of: deoxyribonucleic acid (DNA), ribonucleic acid (RNA) or analogs or mimetics of DNA or RNA.

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12. A compostion according to claim 3, wherein the polypeptide is selected from the group consisting of an antibody, enzyme, receptor or peptide.

13. A composition according to ~~claim~~ 1, which contains a spacer between the biopolymer and the insoluble support.

14. A composition according to claim 4, which is made by the formation of a chelate complex between the nucleic acid and the polypeptide.

15. A composition according to claim 14, wherein the chelate complex is formed by the reaction of a nucleic acid containing a chelate functionality with a polypeptide containing an imidazoyl functionality in the presence of a metal ion.

16. A composition of claim 14, wherein the chelate complex is formed by the reaction of a nucleic acid containing an imidazoyl functionality with a polypeptide containing a chelate functionality in the presence of a metal ion.

17. A composition according to claim 15 or 16, wherein the polypeptide is an enzyme.

18. A composition according to claim 17, wherein the enzyme is an alkaline phosphatase.

19. A method according to claim 18, wherein the enzyme is bacterial

alkaline phosphatase (BAP).

20. A method for making a composition of claim 1, comprising the steps of:

a) immobilizing a nucleic acid to an insoluble support via a first reversible linkage; and

b) conjugating said nucleic acid with a polypeptide via a second reversible linkage.

21. A method according to claim 20, wherein the first or second reversible linkage is formed through a trityl derivative, a chelate complex, a hydrophobic interaction or a photocleavable functionality.

22. A method according to claim 20, wherein step b), the first or second reversible linkage forms a chelate complex.

23. A method according to claim 22, wherein the first or second reversible linkage is formed by the reaction of a nucleic acid containing a chelate functionality with a polypeptide containing an imidazoyl functionality in the presence of a metal ion.

24. A method according to claim 22, wherein the first or second reversible linkage is formed by the reaction of a nucleic acid containing an imidazoyl functionality with a polypeptide containing a chelate functionality in the presence of a metal ion.

25. A method according to claim 20, wherein the first or second reversible linkage are formed from functionalities or precursors, which are introduced into the nucleic acid during enzymatic synthesis.

26. A method according to claim 25, wherein the enzymatic synthesis

is part of an amplification procedure.

27. A method of claim 26, wherein the amplification procedure is selected from the group consisting of the polymerase chain reaction (PCR), the ligase chain reaction (LCR) and strand displacement amplification (SDA)..

28. A method according to claim 25, wherein the enzymatic synthesis is part of a nucleic acid sequencing procedure.

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29. An oligonucleotide analog comprised of a β-cyanoethylphosphoamidite functionality with a chelate functionality.

30. An oligonucleotide analog of claim 29, wherein the chelate functionality is a precursor of nitrilotriacetic acid derived from either serine, cysteine or lysine.

31. An oligonucleotide analog comprised of a heterobifunctional trityl group with a chelate functionality.

32. An oligonucleotide analog of claim 31, wherein the chelate functionality is a precursor of nitrilotrisacetic acid derived from serine, cysteine or lysine.

33. An oligonucleotide analog comprised of a β-cyanoethylphosphoamidite functionality with an imidazolyl functionality.

34. An oligonucleotide analog comprised of a heterobifunctional trityl group with a oligohistidyl or oligoimidazolyl sequence.

35. An oligonucleotide analog according to claim 34, wherein the oligohistidyl sequence is present at the 5'- or 3'- terminus.

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36. An oligonucleotide analog comprised of an imidazolylnucleoside-β-cyanoethylphosphoamidite.

37. A member selected from the group consisting of: nucleoside triphosphates, 2'-deoxynucleoside triphosphates, 3'-deoxynucleoside triphosphates and 2',3'-dideoxynucleoside triphosphates, wherein the member contains a chelate functionality at either C5 in the pyrimidine ring of thymine, uracil, or cytidine or at C8 in the purine ring of adenine, guanine or hypoxanthine.

38. A member selected from the group consisting of: nucleoside triphosphates, 2'-deoxynucleoside triphosphates, 3'-deoxynucleoside triphosphates and 2',3'-dideoxynucleoside triphosphates, wherein the member contains an oligohistidyl or oligoimidazolyl chain at either C5 in the pyrimidine ring of thymine, uracil, or cytidine or at C8 in the purine ring of adenine, guanine or hypoxanthine.

39. A recombinant protein which carries at its C-terminus an oligopeptide chain, which is capable of forming a chelate complex in the presence of metal ions.

40. A recombinant protein according to claim 39 which has enzymatic activity.

41. A recombinant according to claim 40, which is an alkaline phosphatase, which has an alanine residue at its N-terminus instead of arginine-threonine and which has at its C-terminus a chain of six histidine residues.

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42. A peptide which carries at its N- or C- terminus an oligohistidyl sequence, which is capable of forming a chelate complex in the presence of metal ions.

43. A peptide which carries at its N- or C- terminus a chelator functionality which is capable of forming a chelate complex in the presence of metal ions.

44. A composition of claim 1, wherein the insoluble support is linked via a spacer to the nucleic acid through a reversible heterobifunctional trityl group and the nucleic acid is conjugated to an enzyme through a reversible chelate functionality.

45. A scomposition according to claim 44 in which the polymer support is comprised of magnetic beads, the chelate complex is formed via the nitrilotriacetic acid functionality in the presence of Ni^{2+} and the enzyme is BAP-his_6.

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46. A composition according to claim 44 in which the polymer support is a silicon wafer carrying the reversible functionalities to bind the nucleic acid either directly on the surface or through beads in pits or wells in an array format, the chelate complex is formed via nitrilotrisacetic acid functionality in the presence of Ni^{2+} and the enzyme is BAP-his_6.

47. A composition according to claim 44 in which the polymer support is the filter bottom in the wells of a microtiter filter plate, the chelate complex is formed via nitrilotrisacetic acid functionality in the presence of Ni^{2+} and the enzyme if BAP-his_6.

48. A method of using the composition according to claim 44 to purify and to detect products of nucleic acid amplification procedures.

49. A method of claim 48, wherein the amplification procedure is selected from the group consisting of: the polymerase chain reaction, the ligase chain reaction and strand displacement amplification.

50 A method for using the composition according to claim 44 for determining the sequence of a nucleic acid.

51. A method for using the composition according to claim 44 to purify and to detect the identity and relative quantity of mRNAs or their corresponding

cDNAs for genetic or expression profiling.

52. A method for using the composition according to claim 44 to purify and to detect products of nucleic acid amplification procedures.

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